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ABSTRACT

Ten randomly picked children of prekindergarten age participated in a study that focused on whether feature analysis can be used as an aid in the recognition of the alphabet. The five children in the control group were introduced to the letters as a whole, while the five children in the experimental group were introduced to the whole letters but also were made aware of their distinctive characteristics. Care was taken not to present letters with similar distinctive features. The ten-minute instruction sessions took place tri-weekly. Frequent posttesting was employed and the number of trials it took each child to learn a letter was recorded. It was found that the children exposed to letter recognition instruction utilizing feature analysis benefited more than did children who had no distinctive feature training.
(Author/TJ)

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FEATURE ANALYSIS AS AN AID IN THE RECOGNITION
OF THE ALPHABET

BY
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To
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ABSTRACT

This study focused on whether feature analysis can be used as an aid in the recognition of the alphabet. The control and experimental groups consisted of ten randomly picked children of pre-kindergarten age. The control group were introduced to the letters as a whole. The experimental group were introduced to the letters but were made aware of the distinctive characteristics of the letters. Care was taken not to present letters which would have had similar distinctive features (b, d p, q). The instruction took place tri-weekly for ten minutes. Frequent post-testing took place and the number of trials it took each child to learn a letter was recorded. Findings: The children benefited more utilizing instruction with feature analysis when compared to children who had no distinctive feature training.

TABLE OF CONTENTS

	PAGE
ARTICLE I:	
INTRODUCTION	1
Hypothesis	2
Assumptions and Limitations	2
DESIGN OF THE STUDY	4
Sampling Procedure	4
Specific Study Procedures	5
PRESENTATION AND ANALYSIS OF DATA	7
SUMMARY AND CONCLUSIONS	8
ARTICLE II:	
RELATED RESEARCH	9
REFERENCES	18

INTRODUCTION

Feature analysis is a procedure by which children can be taught to learn the letters of the alphabet in a way which will help them understand the different aspects and shapes of each individual letter. This method, it has been suggested (Mazurkiewicz 1967), will improve childrens' grasp of the letters and what goes into the letter. In a typical school, however, the letters are introduced as a whole without pointing out what goes into making the letter.

Fuller (1974) used feature analysis with a group of severely retarded people with the 'ball-stick-bird' method. She found it easier to teach these subjects how to read by introducing the letters of the alphabet using feature analysis. The students were able to understand each letter and what it stood for when this method was used with severely retarded people, the procedure helped the children learn the letters of the alphabet more easily and understand their learnings better. However, little work on this aspect of word analysis has been seen in the public schools with normal children. The concept of feature analysis has its origin in the work of Gibson(1953) and Pick(1965) who identified the distinctive features of the letters. They included such characteristics as

orientation on the page, open-closed, line-cursive, diagonality, and vertical-horizantal line.

Randall(1976) had a very interesting idea. Her exercises include the teacher and the student together make the letter or letters life-size(4 years old) and have him/her paint the letter. She also has the children make their letters into collages. Ms.Randall feels making the letters life-size will give the children a chance to actually see what parts really go into the letter.

Hypothesis

Feature analysis will help children to learn their letters and recognize them more easily than if they were taught just to copy symbols or simply different shapes. Letters which are difficult to discriminate visually (i.e. b d, p q, and g p) can be made easier to learn when some constructive facts are pointed out to the children as they are learning.

Assumptions and Limitations

This study was done in a day care/nursery school

situation. The childrens' ages ranged from three years nine months to four years nine months. This study was situated in a low socio-economic area. It involved ten children of a class comprised of eighteen children. A random sample of these children were assigned to each of the two treatment groups to produce two samples of five children each.

Group I, the control group, included two boys and three girls. Group II, the experimental gorup, included four bous and one girl. The nature of this study was not based on nor does it affect the outcome due to unbalanced sex characteristics.

Group I was introduced to each of the twenty-one letters as a whole without showing any distinctive features. Group II was introduced to each letter showing the most distinctive parts of the shape. The instruction took place tri-weekly for ten minutes for each group alternating between morning and afternoon activity time. Frequent post-testing took place and the number of trials it took each child to learn each specific letter was recorded.

DESIGN OF THE STUDY

Sampling Procedure

The class utilized was comprised of eighteen children. Their ages ranged from three years nine months to four years five months. The class consisted of five girls and thirteen boys. A random sample of these children was assigned to each of the two treatment groups to produce two samples of five children each. Group I, the control group, included two boys and three girls. Their ages ranged from three years six months to four years three months. The mean age for this group was four years.

The experimental or feature analysis group included four boys and one girl. Their ages ranged from three years six months to four years. The mean age for Group II was three years six months.

The two groups were unbalanced according to sex characteristics, however, the nature of this study did not seem to require such fine distinctions in sex in this sample. The remaining children in the class were excluded for the study since they did not meet the condition for the sample. All the children in this study came from homes identified as being of a low socio-economic status.

Specific Study Procedure

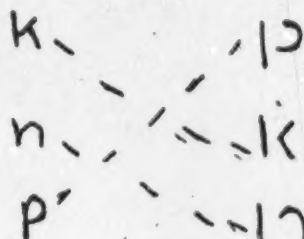
Alertness was tested when the class took part in a 'what's missing game'. Five objects were lined up and the children were asked to close their eyes while one object was taken away. Those which were most alert and exhibited the best recall were picked to be in the study.

Daily instructional time was alternated tri-weekly so that no group benefited from an early or late start in the day. The time allotted for instruction was a maximum of ten minutes tri-weekly. A pre-test of recognition and naming of the letters of the alphabet indicated that the children involved in this study did not know any letters of the alphabet.

The children in Group II were first taught the shape circle ○. The letters presented were a, o, c, d, x, n, e, f, i, k, l, r, s, t, v, w, z, b, j, p and h. Care was taken not to present letters together that had similar characteristics. Each letter was taken apart and presented in that manner so that features of each letter were observed and studied. Group I was presented with the letter as a whole with the name attached to it.

Follow-up activities were organized to insure that reinforcement activities relating to recognition were provided for ten minutes tri-weekly after every letter, then after every three letters. Children learned seven

letters a month and were frequently tested to determine whether letter recognition was being mastered. Group I children were asked verbally and visually to identify the letters and letter. Group II children were given sheets with the letters and asked to match them to their parts.



Then they were asked to name the letter. Records were kept on how many trials it took each child to learn each specific letter.

PRESENTATION AND ANALYSIS OF DATA

Table I indicates how many trials it took each group of children to master each specific letter taught. The mean number of trials to master each letter was computed both for control and experimental groups. This shows how many attempts it took to achieve success for each letter learned by each group.

TABLE I

RECORDING OF EACH GROUP'S AVERAGE TRIALS

Letter	Trials: Range	Experimental Median	Trials: Range	Control Median	t Score
o	5-6	5.4	5-8	6	
a	5-6	5.4	5-8	6.2	
c	5-7	6.2	5-7	5.6	
d	7-9	8	9-12	10	
x	5-6	5.4	5-6	5.4	
n	9-11	9.6	10-15	11.8	
e	10	10	14-18	15.4	1.1
i	4-6	5	6-8	7.2	
f	5-7	6	7-10	12.6	2
k	4-5	4.8	8-10	9	1.6
l	5-6	5.4	6-7	6.6	
r	6-8	6.6	5-13	9.2	.7
s	4-5	4.8	5-7	6.4	
t	4-5	5.2	5-8	7	
v	4-5	4.6	6-7	6.4	
w	4-5	4.6	9-11	10.4	2.4
z	7-9	8	8-15	12.2	.9
b	4-5	4.6	13-17	14.4	3.7
j	4-6	4.8	5-7	6.2	
p	5-9	6.8	7-12	7.8	
h	3-4	3.6	5-8	6.2	1.4

Scores show that each letter was easily retained and learned using the feature analysis instruction.

SUMMARY AND CONCLUSIONS

The results of this study supports the original hypothesis that feature analysis can be used as an aid in the recognition of the alphabet. It is of interest in learning to read that a feature analysis approach as compared to just presenting the letter as a whole is definitely much more effective as a learning process. The implication is that instruction in feature analysis is very valuable in first teaching the letters of the alphabet and that readiness for reading can be more effective using this type of instruction. The conclusion is that a program which utilizes distinctive characteristics of the letter has a more positive effect on how the children learn and retain the knowledge of letters of the alphabet than a program which utilizes no training in feature analysis at all.

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